

REMARKS

By the present amendment, claims 1 and 11 have been amended to delete the expression “said mobile magnetic plate configured to come into contact with said at least one stop to prevent contact between the plate and the electromagnet,” to incorporate the subject matter of claim 4, and to incorporate the features of claims 5 and 6 that the electromagnet comprises an E-shaped magnetic circuit, and at least one of the stops is located at an end of each of three branches that form the E-shaped magnetic circuit, so that an air gap is maintained between each end branch of the magnetic circuit of the electromagnet and the plate.

Accordingly, claims 4 and 6 have been canceled, claims 2, 3, and 10 have been amended accordingly, claim 11 has been amended to be dependent on claim 1, and 12-13 have also been amended accordingly.

Claims 1-3, 5, and 7-13 are pending in the present application. However, claims 2-3 and 8 are withdrawn following a election of species, first, the species of Figures 4a-4b (in response to the requirement dated April 19, 2006, response dated May 8, 2006), then the species of Figures 5a-5b (in response to the requirement dated May 1, 2007, withdrawn on May 9, 2007, interview summary dated May 25, 2007).

Further, it is submitted that present claim 1 reads on the elected species of Figs. 5a-5b.

Also, it is submitted that claim 1 is generic to the species of all pending claims.

I. Objection to withdrawn claims 2-3 and 8

As a preliminary, in the Office Action, it is alleged that the Amendment filed October 18, 2006 listed claims 2-3 and 8 as “withdrawn” but did not reproduce the text of these claims, so that claims 2-3 and 8 are considered to have been canceled.

Reconsideration and withdrawal of this assertion is respectfully requested. Claims 2-3 and 8 were withdrawn and not canceled, even though their text was not reproduced in a paper filed by the previous representative. In this paper, claims 2-3 and 8 are correctly identified as “withdrawn,” while their text is fully reproduced.

In view of the above, it is submitted that the objection should be withdrawn.

I. Lack of enablement and lack of written description rejections

In the Office Action, claims 1, 4-5, 7, and 9-13 are rejected under 35 U.S.C. 112, first paragraph, as not enabled. It is alleged in the Office Action that the expression “said mobile magnetic plate configured to come into contact with said at least one stop to prevent contact between the plate and the electromagnet” is inoperative because “‘the plate’ would contact ‘the electromagnet’, except at ‘at least one stop’” (Office Action at page 2, last paragraph).

Also, in the Office Action, claims 1, 4, 5-7, and 9-13 are rejected under 35 U.S.C. 112, first paragraph, as lacking written description. It is alleged in the Office Action that the expression ““said mobile magnetic plate configured to come into contact with said at least one stop to prevent contact between the plate and the electromagnet” is new matter, i.e., not sufficiently described in the original application.

The rejection is respectfully traversed. Namely, the expression that is objected to is clearly and immediately derived from the original application, especially the drawings and corresponding text, by the person of ordinary skill in the art.

However, in order to reduce the number of issues in the application, claim 1 has been redrafted as set forth above, without the expression that is objected to.

In view of the above, it is submitted that the rejections are moot.

II. Art rejections

In the Office Action, the following rejections are set forth:

Rejections based on Kreuter or Wuebbecke and Iida

- Claims 1, 5, 7, and 9 are rejected under 35 U.S.C. 103(a) as obvious over US 4,715,332 to Kreuter (“Kreuter”) in view of US 6,679,204 to Iida et al. (“Iida”);
- Claim 11 is rejected under 35 U.S.C. 103(a) as obvious over Kreuter in view of Iida;
- Claims 1, 4-5, 7, and 9 are rejected under 35 U.S.C. 103(a) as obvious over EP 0 504 806 (“Wuebbecke”) in view of Iida;
- Claim 11 is rejected under 35 U.S.C. 103(a) as obvious over Wuebbecke in view of Iida;
- Claims 10 and 12-13 are rejected under 35 U.S.C. 103(a) as obvious over Kreuter or Wuebbecke in view of Iida, and further in view of design choice;

Rejections based on Kreuter or Wuebbecke and Grundl

- Claims 1, 5, 7, and 9 are rejected under 35 U.S.C. 103(a) as obvious over Kreuter in view of US 6,755,161 to Grundl et al. (“Grundl”);

- Claim 11 is rejected under 35 U.S.C. 103(a) as obvious over Kreuter in view of Grundl;
- Claims 1, 4-5, 7, and 9 are rejected under 35 U.S.C. 103(a) as obvious over EP 0 504 806 (“Wuebbeke”) in view of Grundl;
- Claim 11 is rejected under 35 U.S.C. 103(a) as obvious over Wuebbeke in view of Grundl;
- Claims 10 and 12-13 are rejected under 35 U.S.C. 103(a) as obvious over Kreuter or Wuebbeke in view of Grundl, and further in view of design choice;

Rejections based on Oyama and Iida or Grundl

- Claims 1 and 11 are rejected under 35 U.S.C. 103(a) as obvious over US 6,371,063 to Oyama et al. (“Oyama”) in view of Iida or Grundl;
- Claims 10 and 12-13 are rejected under 35 U.S.C. 103(a) as obvious over Oyama in view of Iida or Grundl and further in view of design choice.

Reconsideration and withdrawal of the rejections is respectfully requested.

As a preliminary, since claims 1 and 11 now incorporate the subject matter of claim 4, it is submitted that the rejections based on combinations of references including Kreuter and those based on combinations of documents including Oyama are moot, as these rejections were not applied to claim 4.

Next, regarding the rejections based on combinations of references including Wuebbeke, first, it is submitted that elements 22 and 4 on Fig. 1 of Wuebbeke cover substantially the whole

surface of the peripheral and central surface of electromagnet core 21, so that in Wuebbeke, an air gap is not maintained between each end branch of a magnetic circuit of the electromagnet and the plate of Wuebbeke, as required in the presently claimed invention. Indeed, Wuebbeke provides a large contact surface exceeding the magnetic circuit of its electromagnet, which is contrary to the objective of the present invention.

Second, it is noted that, in addition to the embodiments shown in the Figures, Wuebbeke also discloses using a filling material for the space between the center element 22 and the intermediate element 4, and further having the filling material protrude toward the moving plate to serve as a dampening element for the valve element. This embodiment is not shown in the Figures of Wuebbeke but it is discussed in the description (Wuebbeke at col. 3, lines 34-41, translated into English):

Further, filling with a resilient material is possible, so that the return of the movable core 3 and thus the return of the valve element 5 is dampened. To this effect, the filling element protrudes advantageously from the front side of the intermediate element 4 and of the center element 22.

However, even if, arguendo, the filling material of Wuebbeke were to be interpreted as a “stop” (which is denied), this filling material would not be located at the end of branches forming a magnetic circuit of Wuebbeke, but rather, on the contrary, away from such ends of magnetic circuit. Accordingly, even taking into consideration this variant of Wuebbeke, Wuebbeke does not teach or suggest the features of the presently claimed invention that at least

one of the stops is located at an end of each of three branches that form the E-shaped magnetic circuit, so that an air gap is maintained between each end branch of the magnetic circuit of the electromagnet and the plate, as recited in present claim 1.

In contrast, the present inventors have discovered that, by providing a plurality of stops and each of the plurality of stops is located on one of the electromagnet and the plate, the stops being arranged symmetrically in relation to an axis of translation of the plate, and the electromagnet comprises an E-shaped magnetic circuit, and at least one of the stops is located at an end of each of three branches that form the E-shaped magnetic circuit, so that an air gap is maintained between each end branch of the magnetic circuit of the electromagnet and the plate, as recited in present claim 1, it is possible to reduce a contact surface between the valve plate and the electromagnet core, while ensuring secure and effective operation and blocking of the valve plate in position against the stops. These features of the presently claimed invention and their advantages are not taught or suggested in Wuebbecke, and Iida and Grundl fail to remedy these deficiencies. Therefore, the present claims are not obvious over Wuebbecke taken alone or in any combination with Iida and/or Grundl.

Further, regarding the dependent claims, the cited references fail to teach or suggest the combined features of each of these respective claims. Therefore, each of the dependent claims is not obvious over the cited references taken alone or in any combination.

In view of the above, it is submitted that the rejections should be withdrawn.

Conclusion

In conclusion, the invention as presently claimed is patentable. It is believed that the claims are in allowable condition and a notice to that effect is earnestly requested.

In the event there is, in the Examiner's opinion, any outstanding issue and such issue may be resolved by means of a telephone interview, the Examiner is respectfully requested to contact the undersigned attorney at the telephone number listed below.

In the event this paper is not considered to be timely filed, the Applicants hereby petition for an appropriate extension of the response period. Please charge the fee for such extension and any other fees which may be required to our Deposit Account No. 502759.

Respectfully submitted,

/nicolas seckel/

Nicolas E. Seckel
Attorney for Applicants
Registration No. 44,373

Nicolas E. Seckel
Patent Attorney
1250 Connecticut Avenue NW Suite 700
Washington, DC 20036
Tel: (202) 669-5169
Fax: (202) 822-1257
Customer No.: 29980
NES/rep